CACTUS AND SUCCULENT JOURNAL

Of the Cactus And Succulent Society Of America

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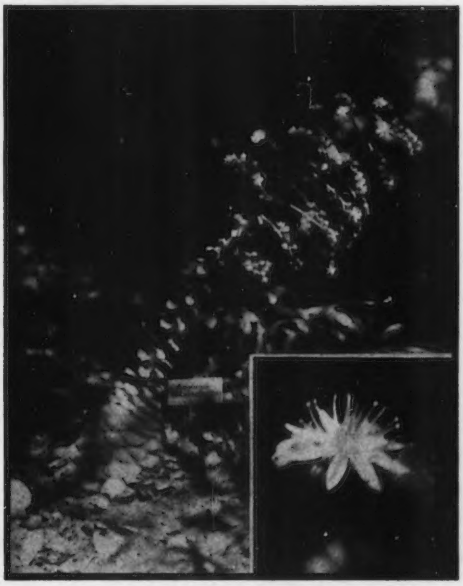

Aeonium tabulaeformis
in flower Mrs. Wright's garden in Santa Barbara
Aug. 1931, Photo by John D. Wright

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CACTUS AND SUCCULENT JOURNAL

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THE CACTUS AND SUCCULENT SOCIETY OF AMERICA

A monthly magazine to promote the Society and devoted to Cacti and Succulents for the dissemination of knowledge and the recording of hitherto unpublished data in order that the culture and study of these particular plants may attain the popularity which is justly theirs. "The Cactaceae," by N. L. Britton and J. N. Rose, has been adopted by this journal for purposes of identification. (Membership and subscription $3.00 per year, foreign $3.50.) Mail membership application and subscription to the Secretary, Mr. W. M. Ketteringham, 610 West 65th Street, Los Angeles, Calif.

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VOLUME III SEPTEMBER, 1931 NUMBER 3

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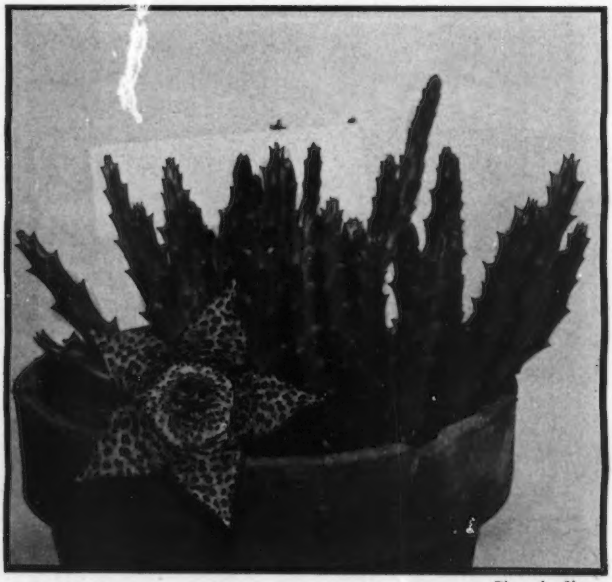
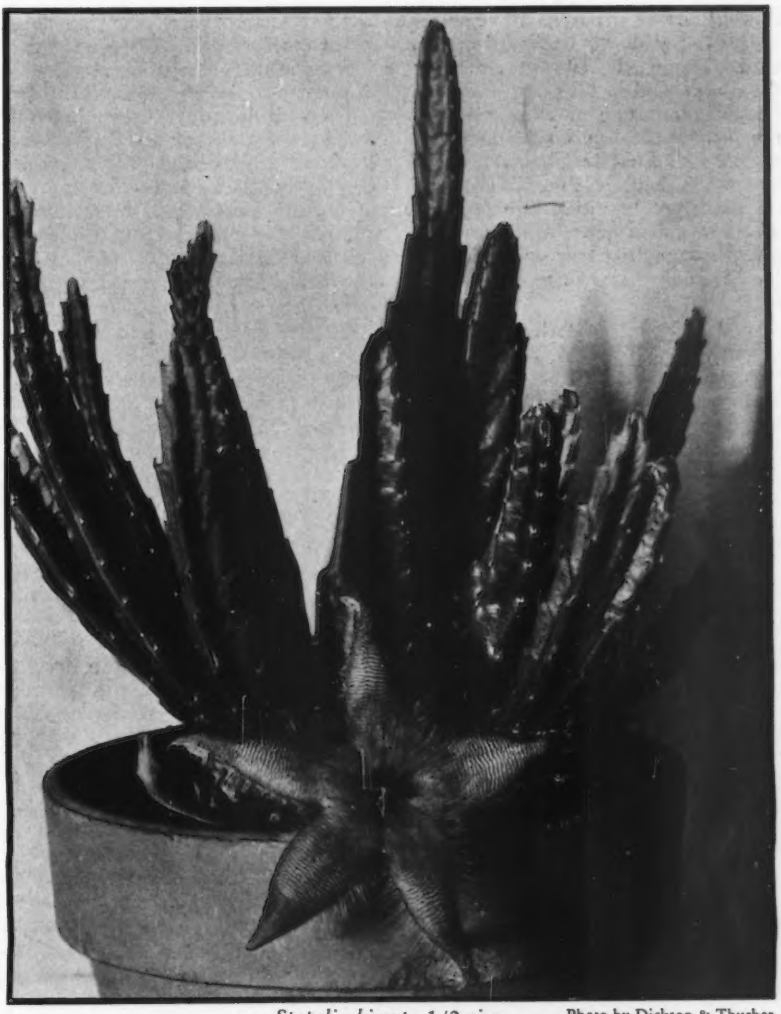


Photo by Sloane

Stapelia variegata, 2/3 size



Stapelia hirsuta 1/2 size Photo by Dickson & Thurber

The Stapelieae

1. Introduction

By ALAIN WHITE *and* BOYD L. SLOANE

The Asclepiadaceae, or Milkweed Family, are a large and widely distributed group of plants consisting of about 217 genera and over 1800 species. It is a far cry from the Showy Milkweed, *Asclepias speciosa*, of California, to the tribe of the Stapelieae which we are to study in these articles. Yet we can learn something about the flower structure of the African succulents by examining their American cousins.

The flowers of all the Asclepiads are very curious. In the center is a shield-shaped body, round or five-angled, which serves as the stig-

ma, into which are also embedded five anthers and five little honey-bearing hoods, all more or less united. The hoods, taken together, are called the corona, and in the Stapelieae this is usually double, consisting of an outer corona and an inner corona. The outer corona is a thin flat disk with five-fold lobes, and in certain species it is entirely absent. The inner corona is also five-fold, rising into two little horns, an inner and an outer, which are sometimes quite separate from one another and at other times are united to a more or less broad wing.

The central crown of the Asclepiads (stigma surface, anthers and coronas) assumes many forms, some so characteristic that genera and tribes can be described by reference to it, others so variable that other factors must be made the basis for botanical subdivisions.

The function of the Asclepiad crowns is said to be paralleled only by the somewhat similar fertilizing mechanism of the Orchidaseae. There are fissures through the intricate system of these united organs into which an insect must press its proboscis to reach the honey secreted under the inner corona. As it does so, it rubs against the pollen masses, which stick to it by means of the prehensile tip of the pollen carrier (a tiny device, wishbone shaped, that carries two small masses of pollen, one at the end of each arm). Next the insect withdraws its proboscis, uncomfortably burdened, and it naturally tries to rub this off as soon as possible, and when it succeeds in doing so against the convenient stigma surface of another flower, the pollen is promptly conveyed to the ovaries and fertilization is completed.

The ovaries are located just beneath the stigma crown. There are two in each flower, standing side by side like little ninepins, separate from one another, but adhering by their tips to the underside of the crown above. In time they develop into the twin seedpods characteristic of the family, from which issue drifts of flattened seeds equipped with silky hairs, able in many cases to disperse them over great distances.

The Asclepiadaceae have been divided into tribes according to the nature and position of the pollen as it exists in the anther cells, and we learn that the waxy, partly pellucid type present in the Stapelieae is also found in the tribe of the Ceropegieae. Some botanists have therefore thought to combine the two tribes into one, but other considerations have led to their being kept separate and indeed the succulent character of the Stapelieae is in itself typical. Their short, frequently toothed, fleshy stems, indeed, resemble those of certain Cacti and Euphorbias much more than they do the stems of the other tribes of Asclepiads.

Some of these other tribes reveal a slight predisposition to succulence, and collectors are familiar with the odd vine-like stems of *Sarcostemma viminale* R. Br. and the thickened showy leaves of *Hoya carnosa* R. Br. In the Ceropegieae, which are natives of the hotter parts of India, tropical Africa, the Mascarene Islands and the Cape regions, this tendency towards succulence is met again, and *C. stapeliiformis Haw.* foreshadows the Stapelieae somewhat in appearance, as well as in name.

In 1856 there was found, in India, a species of the Stapelieae, *Frerea indica* Dalzell, a small fleshy shrub, in which succulence had not yet become pronounced and in which true leaves persisted. But whether the remaining Stapelieae derived from some relative of this plant and so are to be considered as of Indian origin, or whether they evolve from some common ancestor with the present-day African Ceropegieae, it is idle to speculate.

It is sufficient for us to realize that the Stapelieae were adapted to venture forth into desert and semi-arid regions by reason of their ability to store water in their succulent stems. The details of their particular fertilizing mechanism also adapted them to pollenization by the desert flies, or indeed by any flies whatsoever, including the ordinary house-flies and other visitors of our own gardens and greenhouses.

To attract flies, the Stapelieae surrounded the central crown of their flowers with a corolla often strikingly scented. Like the rest of the flower, the corolla is of five-fold pattern. There is a central portion which sometimes features a distinct ring, raised above the corolla itself or embossed into it, and from this central area radiate five lobes or petals, which vary from almost circular forms, as in the *Hoodias,* to deeply cleft divisions, as in some of the *Carallumas*. The colors of the corolla tend towards purples or reddish-browns on the one hand, and to ochreous shades of yellow on the other, with modifications of all sorts, and also all sorts of markings in one color superimposed on a background of another hue. The odor of the Stapelieae is certainly of importance in attracting the flies, and it is to the occasional resemblance of this odor to carrion that the Stapelieae owe their popular name of "Carrion Flowers." To humans the odor is objectionable in only a few species, notably in that of the well-named "fetid Piaranthus", *Piaranthus foetidus* N. E. Br.

So equipped, the Stapelieae went forth into

the deserts and multiplied. Fourteen genera are now recognized. These are found in nearly all sections of Africa, though the Cape, the Karroo and Kalahari Deserts, and the former German territory in southwest Africa are their favorite habitats. They extend around the Mediterranean into southern Spain, and in Asia across Arabia and into many quarters of India.

Predisposition or necessity has made the Stapelieae extremely variable and adaptable. Of true species, N. E. Brown recognized about 240 when he reviewed the tribe in the "Flora of Tropical Africa" (Vol. IV, Sect. 1—London, 1904), and in the "Flora Capensis" (Vol. IV, Sect. 1—London, 1909). Alwin Berger added several new species in his treatise of the next year ("Stapelieen und Kleinien" — Stuttgart, 1910), and a considerable additional number have been discovered and published in the past twenty years, a very interesting series being those discovered in Southwest Africa by Professor Kurt Dinter.

The total number of natural species may now be around three hundred. In addition there are a great many more natural varieties and garden hybrids. *Stapelia variegata* L. alone has nineteen varieties recognized by N. E. Brown, while the garden hybrids multiply daily. Indeed, the names of the varieties and hybrids have become so numerous and they are so confused with the names of the true species, that a study of the tribe today must begin with a frank rejection of many current names and the determination to verify for one's self the identity of one's plants.

On the other hand, some species are undoubtedly disappearing. Several observers have commented on this fact, notably Sir Wm. T. Thistleton-Dyer, the editor of the two Floras, who says in the introduction to the fourth volume of "Flora Capensis": "It is to be feared that one of the most striking features of the South African flora is doomed to gradual and irremediable extinction."

We get a measure of the changes taking place among the Stapelieae by going back to the days of Francis Masson, their first serious collector and grower, who in the last decade of the eighteenth century sent to the Botanical Gardens at Kew many of the first specimens seen in Europe. In his book (Stapelieae novae or, A Collection of several new species of that Genus; discovered in the interior parts of Africa—London, 1796) Masson gave fine illustrations of 41 species, of which 37 were previously unknown. Of his discoveries not less than 15 have never been collected since, a surprisingly large percentage, and we must suppose that many of them are now extinct.

The Stapelieae are such a variable tribe that very slight changes in climate, especially in rainfall, may have caused certain species to disappear. Others may have fallen victims to the increase in population and in grazing in their territories. The Stapelieae have not the defensive hard spine armor of the Cacti, and while many develop teeth, these are weak and better adapted to shade the stem surfaces from the desert sun than to afford real protection from attack.

How far the plants have been deliberately picked is hard to estimate, but N. E. Brown gives a number of instances of their use as food or medicine. The name of the Asclepiadaceae was given to the family in honor of the old Greek god, Aesculapius, the father of medicine, because of their supposed medicinal properties, and in our particular tribe the *Trichocaulons* are especially sought after for medical uses among the natives, as well as for food. Even some poisonous species, like the quaqua (or gwagwa, *Caralluma hottentotorum* N. E. Br.), are considered beneficial as medicine. Of the purely edible plants, *Pectinaria articulata* Haw. would seem the most attractive. Besides being eaten by the Hottentots, it is pickled like cucumbers by the colonists. No wonder it, too, has largely disappeared today.

The first of the Stapelieae to be brought to Europe was *Stapelia variegata* L., which was known in Holland about 1640, as it is mentioned in the 1644 edition of Theophrastus' Historia Plantarum, by the Dutch botanist and physician, Dr. J. B. van Stapel, whose name the entire tribe commemorates to this day. The only other Stapelia to be described by Linnaeus in his Species Plantarum, 1653, is the "hairy Stapelia", *Stapelia hirsuta* L., which is shown in our illustration. It is a very beautiful species, with showy purple-red flowers, four or five inches in diameter, marked on the basal half of the corolla lobes with transverse cream-colored lines, and with the flat center and base of the lobes covered with dense soft purple hairs.

Stapelia hirsuta is widely distributed throughout the Cape and appears in many natural varieties and even more hybrid forms of European garden origin. The stems are typical, combining elegance and strength. The succulent stems of the Stapelieae, by the way, group themselves into a number of very characteristic forms, which we will illustrate in some detail next month when we enumerate the different genera of the tribe.

EDITOR'S NOTE: In this article Messrs. White and Sloane begin a series intended to introduce the

Stapelieae to our readers. It will be along elementary lines and will make no attempt to deal comprehensively with this large tribe of plants, but will limit itself to telling a little about the species to be found in California collections. Much confusion exists at the present time in the identification and naming of these plants. It is hoped that these articles will be a beginning towards making the subject less difficult. If the interest is sufficient, more advanced descriptions of some of the species will be undertaken in our next volume. In the remaining numbers of the present volume the articles will be entitled as follows:

October—The Fourteen Genera
November—Caralluma
December—Heurnia I
January—Heurnia II, Heurniopsis and Diplocyanthus
February—Stapelia I: Orbeas
March—Stapelia II: Stapeltonias
April—Stapelia III and Pectinaria
May—Duvalia, Piaranthus
June—Echidnopsis, Tavaresia, Trichocaulon and Hoodia

Correspondence regarding the articles will be welcomed, and letters may be addressed to Boyd L. Sloane, 1421 Dominion Avenue, Pasadena, California.

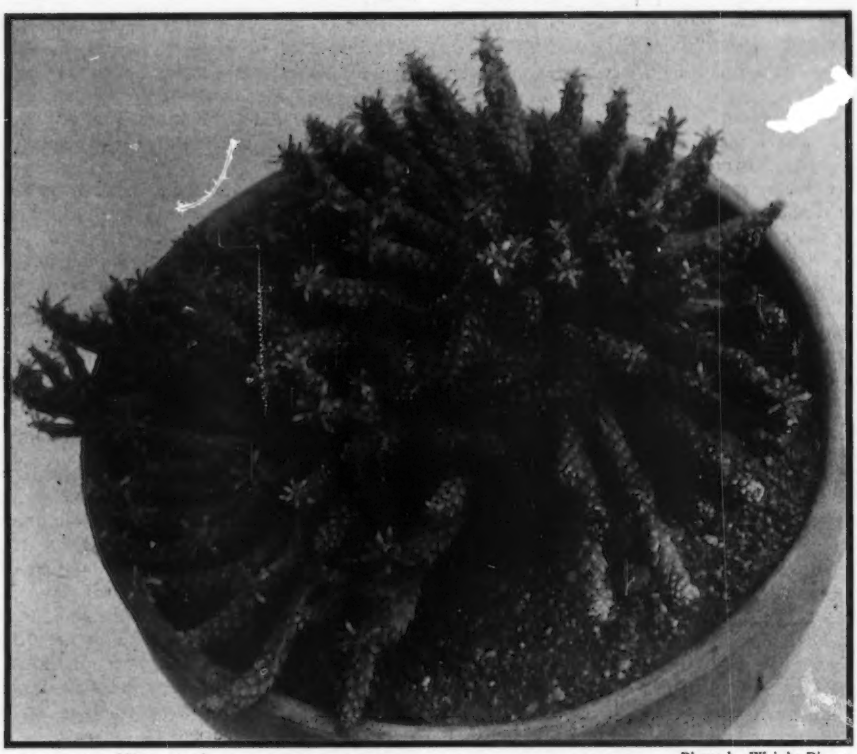


Photo by Wright Pierce

Euphorbia caput-medusae minor, 1/3 size

Euphorbia Caput-medusae, minor

By G. A. FRICK

Euphorbia caput-medusae was known primarily as "Medusa's Head." The name *caput-medusae* is derived from the words "caput," Latin for head or the top of anything, and "Medusa," one of the three Greek Gorbons, with hair of writhing snakes, and whose glance changed those who looked at her into stone; "head of snakes" describes the appearance of the plant.

When establishing this group, Linnaeus included under it no less than five distinct species, apart from the varieties. His description is very inadequate for identification and as there were no specimens of either his species or varieties in his Herbarium, he must have figured the plants

as they occurred near Cape Town, South Africa.

E. caput-medusae, minor, is distinguished and known among gardeners and collectors as the little "Medusae-Head" and is a smaller plant than its nearest sister-species, *caput-medusae,* major, which was known simply as the "Medusa Head" and which will be described in a later number of the JOURNAL.

From descriptions by Miller, Aiton, and Haworth of *E. fructus-pini* and *E. caput-medusae, var geminata,* and by Sweet of *E. tessellata* there is nothing of character to separate these from the typical *E. caput-medusae* minor, and are treated as synonyms.

The photograph shown here is a plant in the collection of the writer, upon which one of the branches crested; it is the habit of this plant when growing in pots for the older branches closest to the ground to dry out and fall off each winter, so when this crest became dangerously low on the head, it was removed, cut into several pieces and grafted onto a more robust *Euphorbia. E. heptagona* and *E. mammillaris* make the best host plant for this purpose.

A successful experiment made by the writer which is worth mention here, is, after the graft has been placed, set the plants in a darkened box with one-inch vent-holes bored into the top; this forces etiolation on the host plant at the very spot where the graft was made; with this method I find they take 100% while those left in the greenhouse all died. This has not been tried on other than *Euphorbias,* but I imagine it would work as well with cacti.

Both *E. caput-medusae,* major and minor, resent coddling; the finest specimen of the later plant observed was also the most neglected I have ever seen. Growing in pots they should be repotted every spring and the pots plunged outdoors for the summer without any further attention until fall. Any position or location will do, as the plants do well in either sun or shade.

The branches of *E. caput-medusae* minor are shorter and larger in circumference in the San Francisco Bay district than those growing farther South; plants exhibited in the San Francisco Cactus Show by Mrs. Karle and Mr. Thomas were noticeably distinct for their robust stems and cerise tint.

When one of the branches is removed, rooted, and grown in pots as is the method of cultivation in the East, the globose main body or head is not formed; instead it becomes a cylindric or clavate stem rising from 10 to 20 inches above the ground and producing branches at the top; it is upon branches rooted in this manner that *E. parvimamma* Boiss was founded and supposed to represent a distinct species. The description of *E. parvimamma* in Berger's SUKKULENTE EUPHORBIEN, 91, does not fit this plant but belongs to *E. bergeri* N. E. Br.

Occasionally heads form on the main body and rarely on the branches. These are safe to remove and will establish as plants, but where the branches are growing in the open ground outdoors in California, rhizoid roots produce new heads annually if the previous year's yield is removed. When grown from seeds, the globose body is always developed from which the numerous branches arise, as is true of all the other species of the group.

The following condensed description was gleaned from the Flora Capensis and SUKKULENTE EUPHORBIEN. The capsule and seeds from plants in my collection: Plants dwarf, succulent, subleafless and spineless, consisting of a globose main body 6 to 8 inches in diameter, several (except at the centre) with very numerous crowded branches forming a hemispheric cushion, uniformly green, spreading and curving upwards at the circumference 6 to 12 inches long, ¾ to 1 inch thick, cylindric, covered with tubercles, leaves very small, soon deciduous, flowers in July and August, solitary in the axils of the tubercules, cluster at the apex of the branches, green and white, capsule three-lobed as seen from above, seeds ellipsoid grayish-brown.

EXCHANGES

Conducted by MRS. W. M. KETTERINGHAM
610 West 65th Street, Los Angeles

The Exchange Department is conducted for the benefit of all subscribers to the Journal, and in order to expedite the handling of your requests for exchanges please accompany the list of plants you have for exchange with a stamped self addressed envelope. Through this Department you will then be put in touch with some member or members of the Society who have the plants that you desire.

Exchanges Offered

Want any succulent plants in exchange for
Agave decipiens.
Aloe vera, A. saponaria, A. hanburyana, A. spirosa, A. Marmirata, A. longifolia, A. davyiana, A. mendel, A. huminis.
Echeveria hoveyii, E. metalica, E. flamea.
Kalanchoe, in three varieties.
Kleinia articulata, and three others.
Sedums, in twelve varieties.

Want smaller species of cactus (no Opuntias) in exchange for large and small Echinopsis multiplex.

Want cactus or succulents in exchange for seeds of Acanthocereus pentagonus, Coryphantha runyonii, and Hylocereus lemairei.

The President's Message

Much has been said concerning the supposed right of priority of the original names of plants. Little evidence, either for or against, has been produced which seemed to be authoritive. It is refreshing to find that Sir William T. Thiselton-Dyer in his preface to Vol. IV, Sec. 1, of Flora Capensis, states certain principles laid down by Sir Joseph Hooker concerning the subject. In Flora Capensis, the Kew tradition has been adhered to in disregarding the supposed right of priority of the original specific epithet where an existing name is "available which has correctly placed a species in the genus to which its affinity is most obvious." The principles laid down by Hooker are stated as follows:

I. "The so-called binomial nomenclature which we employ was devised by Linnaeus, and, as with everything he did, on a logical and definite basis. Nothing but confusion can arise by departure from this. To the specific epithet, apart from its proper function, Linnaeus attached no importance at all. He saw that the scientific problem was to get the species into its right genus. . . . The specific name alone is the clapper without the bell. A Linnean name, then, though it consists of two parts, must be treated as a whole. . . . And the same principle obviously applies to all names constructed in accordance with Linnean rules. The supposed appeal to justice begins by repudiating the authoritiy of the lawgiver. . . .

II. "But the claim for justice works the greatest injustice, and it is not even tempered with mercy. Any careless or incompetent botanist can tack on a blundering name to an undescribed plant, and his blunder with his name attached is to be handed down to posterity for all time. As Linnaeus saw, the real scientific feat is to discover its true affinity, not to give it a haphazard label. And the author who does this successfully is the one whose insight deserves commemoration. It is impossible not to agree with Sir Joseph Hooker when he says: 'I regard the naturalist who puts a described plant into its proper position in regard to its allies as rendering a greater service to science than its describer when he either puts it into a wrong place or throws it into any of those chaotic heaps, miscalled genera, with which systematic works still abound.'

III. "Every revision of the contents of an order involves a reconsideration of the mutual affinities of its contents, and this usually involves some transposition of species from one genus to another, or the creation of new genera. It may be hoped that the process is generally judiciously accomplished. But in any case it yields a crop of synonyms. This is inevitable, and these in a work like the present (Flora Capensis) have to be examined and quoted. . . . There is said to be a species of *Fimbristylis* with 135 synonyms. Taxonomic science must in the end be crushed by its own literary top-hamper. The only remedy eventually will be to draw a line behind which synonymy will be ignored. But we need not add to the burden by the creation of a new specific name when one which is valid and available already exists in the genus. The appeal to justice lays itself open in such cases to the suspicion of being little more than a cloak for the vanity of the author."

BOYD L. SLOANE,
1421 Dominion Ave.,
Pasadena, Calif.

Cactus to Be Shown at Bellflower, October 2 & 3

The Fourth Annual Flower Show of the Bellflower Horticultural Society has provided five entries for cactus growers. For professional growers, three classes as follows:

Best Cactus, single specimen
Best collection of cactus
Best collection of rare species of cactus.

For amateurs the following:
Best Cactus, single specimen
Best collection of cactus.

Amateurs may enter professional classes. There is an entry for miniature rock gardens open to all. The Show is made up largely of dahlias, but every year has had numerous entries of rare and interesting cactus.

Bellflower is on the Santa Ana P. E. Ry. line, about half way between Los Angeles and Santa Ana. The show is to be held on Friday and Saturday afternoons and evenings, October 2nd and 3rd.

Complete entry lists may be had from the Secretary of the Horticultural Society, or cactus entries may be made at any time up to October 1st.

EDGAR BAXTER, *Secretary*,
Bellflower Horticultural Society,
Bellflower, California.

Notes on Vol. I, The Cactaceae

After two years of work, correspondence, visits, telegraphing, etc., the efforts of our Editor, Scott Haselton, are rewarded with the printing herewith of the first sixteen pages of Volume I of Britton & Rose's "Cactaceae."

Beginning with correspondence with Dr. N. L. Britton, co-author of the book, Mr. Haselton has carried on through the slow processes of satisfying people's and institutions' demands for responsibility until the Carnegie Institute, original publishers of the Volume, has sent to him over $58,000 worth of pictures, cuts, illustrations, photographs, and manuscript for use in the reprinting. Their generosity and confidence in our JOURNAL makes all of us grateful beyond possible expression.

However, it was only after the ability of the JOURNAL to adequately reproduce all of its contents had been demonstrated that permission was given for the reprinting. Other journals, individuals, and institutions have long before now applied for permission to reprint the great work on cactus, but none could satisfy the strict demands for accuracy and quality that were made. The high quality of the JOURNAL'S work, and the demonstrated ability to do the color reproductions won for us their cooperation.

The Committee on Additional Material is in the process of formation, but already numbers on its membership such international authorities as Miss Helia Bravo, Professor in the University of Mexico; Professor George Anton, of the University of Porto Rico; Mrs. John D. Wright of Santa Barbara, who probably has the world's largest collection of cactus; Dr. N. L. Britton, our Society's Honorary President, in an advisory capacity; and the local staff including Dr. A. D. Houghton, Mr. James West, and others. As soon as it is completed, the full personnel of the Committee will be announced.

By authorization of the Executive Board of the Society, the Committee requests the assistance of all who can supply new information on the genera of cactus included in Volume I of the "Cactaceae." At the present time we are in need of photographs of the rarer Pereskias, and data on their distribution, habits, form, color of flower, etc., etc. The Committee will give full credit to those who supply authentic information of this type.

Working ahead on the Opuntia Tribe, we are anxious to receive specimens of new, rare, and interesting plants. Cuttings with flower buds about to open, that may be photographed in flower, are particularly desirable. Whenever a plant or photograph is sent in it will assist greatly if the natural habitat of the plant is described and located accurately. In special cases, the Committee will attempt to identify plants for the sender immediately. Preliminary correspondence is invited.

It will be seldom that new species are brought to light. Most of them will be discovered in out-of-the-way spots; in foreign countries; and in older gardens; yet that unusual plant in your own collection may have come from one of these places and be an undescribed species. If you live in a place where cactus grows naturally, you undoubtedly can observe facts not before published, photograph unusual physical characteristics, and record colors, etc., of flowers. All of this information is desired for the benefit of the thousands of readers of the JOURNAL all over the world. Send in your FACTS.

It has been decided that the original Volume I will be reprinted exactly as it first appeared. Additional material, comments and changes are to be made in an additional two pages each issue of the JOURNAL. These additional pages of material will be incorporated in the final reprinting of the book. Dr. W. L. Jepson, noted botanist of the University of California at Berkeley, says in this respect:

"The proposal of the Cactus Society to reprint the out-of-print volume of Britton and Rose's 'Cactaceae' is a most admirable project. I cannot commend too highly the enterprise of the Society in this matter. Speaking as a botanist I should say unhesitatingly that the reprint should be an actual reprint and nothing more. What we wish is a copy of the original four-volume set of Britton and Rose and we cannot have it because of the shortage of Volume I. Supplementary matter, all additions, corrections should have place in a separate pamphlet, separate treatise, or separate volume as desired and cover all four volumes of the work. Britton and Rose's work may be said to be classical. A classical work should be reprinted exactly as in the original, because we wish a record of just what were the views of these particular authors. Let us consider, for example, any well-known work, say Darwin's 'Origin of Species'. In a reprint we wish the work as Darwin left it, we wish his views and judgments as expressed by him, not mangled or 'brought up to date' or

perverted by someone else. Work on the CACTACEAE *will proceed indefinitely. There is no such thing as finality or perfection in science. When science becomes perfect it will be dead. There will always be new facts, new ideas, new theories in regard to the* CACTACEAE, *necessitating new revisions, new arrangements, new monographs. Such changing matter should occupy a separate paper, a separate volume, or form eventually an entirely new work.*

"Let us take as an example the case of Hooker's 'Flora Boreali-Americana' published about 1840. It is a remarkable illustrated classic on North American botany. I myself bought it when I was young and so I possess a set of it. Now, however, it cannot be had at all, and yet there are thousands of botanists who would be glad to have a copy, a reprint of the original work. But this work would be useless to them if brought up to date. What they wish is the original work as Hooker printed it. If it were really brought 'up to date', there would be nothing left of the original work, and yet the original work is priceless. One wants an actual reprint, with the pagination preserved exactly. The moment you disturb the pagination, you upset the tens of thousands of printed references that have been made to such a work by volume and page."

Color plates will be printed whenever funds are available. Before the final binding, it is expected that sufficient interest will be shown in the reprinting to enable us to complete the full series of colored illustrations. The kindnesses of friends will permit occasional making up of the necessary plates for color reproduction as the reprinting is in progress. Anyone who wishes to help may have full particulars from Mr. Haselton, whose address appears on the inside cover of the JOURNAL. Additional members for the Society may be proposed by any present member and this increased income will materially hasten the securing of color prints. Your one new member multiplied by a thousand will help a lot.

This issue contains the forepart of the Volume. Next month will begin the description of species, to be followed regularly by eight pages of reprint and two of additional information.

For information on the reprinting, for depositing of live specimens, for sending in of photographs and data, address the Secretary of the Committee, Edgar Baxter, by mail or express at Bellflower, Los Angeles County, California. For the reprinting, nothing except material on the Pereskia and Opuntia Tribes can be used. Other articles, photographs, etc., should be sent to the Editor.

COMMITTEE ON REPRINTING,
EDGAR BAXTER, *Secretary.*

SECRETARY'S NOTES

There was no meeting of the Society scheduled for the month of August, but two meetings are planned for September. The first is to be held at the garden of Mr. and Mrs. L. A. Walmsley, of the Soledad Rock and Water Gardens, Pacific Beach, San Diego, California, on Sunday, September 6th at 1:30 P. M. The Walmsley garden is located next to that of Miss Kate Sessions.

The second meeting of the month will be held in Santa Barbara, probably on Sunday, September 27th. Full particulars will be given in a later notice which will be mailed you.

The Executive Board, at the regular August meeting, approved the application of our San Francisco and Bay district members to form an affiliated society to be known as the Northern Branch of The Cactus and Succulent Society of America. Its members are very enthusiastic, its officers energetic and the new memberships are flowing in. It is hoped that other communities can arrange to form similar organizations.

In this issue we have commenced the reprinting of Volume I of Britton and Rose's "The Cactacea." This alone, makes our Journal very valuable and should be subscribed to by every person interested in cacti and succulents. In this connection, I should like to quote from a letter received from an enthusiastic member. "It seems to me that it might not be a bad idea to put a little steam under a general plan to stimulate membership. If I could get five new ones this year it seems to me that one hundred other members could get five apiece if they really set out to do it. That would add 500 memberships, 500 subscriptions, and $1500.00 to our bank account. Why not ask every subscriber to get at least one new subscriber? These are dull times, but a great many people who are not now members can dig up the $3.00." Will YOU do your part?

W. M. KETTERINGHAM,
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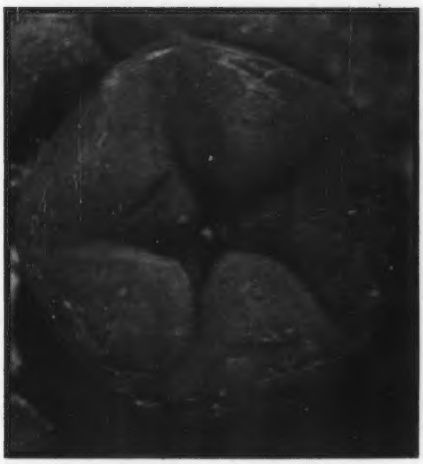


Anhalonium sp. undetermined

Genus Lophophora

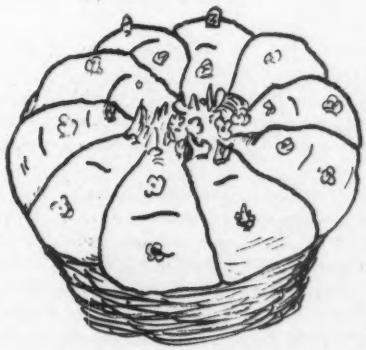
By YSABEL WRIGHT

Sketches and photo by Author

This genus, formerly known as *Anhalonium,* and supposed to consist of several species, though later declared by Britton and Rose to be monotypic, has a curiously fascinating lure for the investigator. I believe that more has been written about it than about any other individual cactus.

As early as 1638, Dr. Francisco Hernandez, physician to His Majesty, King Philip the Second of Spain, ascribed to it almost supernatural qualities. The fourth volume of the Annals of the National Medical Institute of Mexico devotes seven pages to it. In Paris it was studied by J. Labouret in 1853 and in this country in 1848 by Charles H. Thompson. A. DeBarry in Oxford dealt with it in 1884. In 1894 J. M. Coulter wrote at length about it in the third volume of Contributions to the United States National Herbarium. L. Diguet in France wrote of it in 1928, and lately in Mexico Miss Helia Bravo read an interest-

Lophophora lewinii



Lophophora williamsii

ing paper on the subject before the Ninth Medical Congress which was later published in the annals of the Institute of Biology.

In his book, "Las Cactaceas de Mexico", Professor Isaac Ochotorena devotes several pages to this interesting topic. He believes that the genus consists of at least two species, *Anhalonium williamsii* and *A. lewinii*. The two accompanying sketches give an idea of the structural differences in the two plants. Professor Ochotorena states that the flower of *A. lewinii* is yellow and the fruit red, whereas the flower of *A. williamsii* is white, or pinkish and the fruit a pale lavender. The third photo is of a plant in my own collection which has not as yet flowered, or fruited, but which is different in appearance from the other two, which I also have. I am now growing about twenty-five seedlings which, although as yet no larger than a big pea, already show slight differences one from another. The seed came from Mexico marked "Anhalonium Mixed." I am watching with great interest the growth and development of these little plants.

It is not, however, the question whether there is more than one species in the genus that has attracted the attention of so many scientists and research workers, but its narcotic characteristics and, as the Indians believe, its medicinal value.

These plants continue to live several months after they are uprooted, and when eaten produce a sort of ecstasy. It is said to give a sensation of intense happiness and allays hunger and thirst. It also produces colorful visions of great beauty and relieves fatigue to such an extent that the partaker feels capable of extraordinary effort.

Although the effect is similar to that of intoxication in that objects appear to dance about, the eater of "jiculi", as the Indians call it, does not reel. On the contrary he is steadier than in the normal state and can walk undismayed along narrow ledges overlooking precipices.

Another effect of this drug is to momentarily destroy all sexual desire.

The Indians believe that it gives health to the body and purifies the soul. It is for these reasons that they attribute to it divine qualities and even offer sacrifices to it.

The Tarahumare Indians in Mexico hold the "jiculi" in special reverence and have a prescribed ritual for its cult. Even those among them who have been converted to Christianity make the sign of the cross when they see this plant, and Dr. Lumholtz, author of "Unknown Mexico", was repeatedly requested by his guides to "remove his hat and salute it as if it were a person worthy of respect."

The plant is not considered to be quite the equal of "Father Sun", but it sits beside him and is sometimes called "Uncle."

At times the Indians cover these plants with flannel rags and place cigars before them. Women and children are not allowed to touch them. The priests, or "healers", who alone have the right to handle the revered jiculi, must wash their hands in a special way, rinse their mouths, and perform various rites, before grinding the plants on a stone slab. Even then they must avoid touching them with their hands, and use polished sticks to pick them up and move them about.

As jiculi is supposed to be exceedingly virtuous and modest, it is not kept in any house, not even in those of the priests, for fear that it may see something unseemly and be annoyed. It is placed in a special jar which is kept in a wooden trough from which it is never taken without a ceremonial offering of meat and drink. If treated carelessly it would devour the souls of the Indians. If any mishap occurs, as, for instance, if it is eaten by mice, the priests are terrified by the fear of becoming insane. If the plant is believed to be angry, even an ox may be sacrificed to propitiate it.

One curious fact is that the Huichole Indians, a tribe that lives many miles to the north, and holds no communication with the Tarahumares, have the same beliefs and perform the same ceremonies. But the Tarahumare ritual is more minute, and they appear to have more species of *Anhalonium*.

One particular variety seems to be very rare and only to be found in a very restricted locality. The Indians refuse to show this plant to white man, and they seldom gather it themselves because it is so "great" that it demands too important and costly sacrifices. It must have beef, and is not satisfied with the meat of smaller animals. However, its power is so great and beneficial that he who eats it is preserved from all evil, except murder. For, curiously enough, it has no control over the murderer, but thieves can touch nothing belonging to him who has eaten of this particular jiculi.

The scientific study of the effects of this narcotic has produced interesting results. The principal pleasure derived from it appears to be that of beautiful visions in entrancing colors. This pleasure seems to be augmented by music, especially the rhythmic beating of a drum. In certain cases the visions have been controlled by the individual and occasionally they can be suggested by an onlooker. It causes the pupils to dilate and this effect lasts for 24 hours, seriously affecting vision during that period. There is a partial anæsthesia of the skin. It appears to have little effect upon the heart.

These pleasurable sensations are followed by a severe headache, lassitude and feeling of great depression.

Notes Regarding Echinofossulocactus

By DONALD A. JOHANSEN

The article in the May JOURNAL by Mr. Frick on *Echinofossulocactus,* so admirably illustrated by the excellent photographs by Mr. Wright, is most interesting and valuable and it is greatly to be hoped that similar papers on other groups of the Cactaceae will be forthcoming. But: is *Echinofossulocactus* the correct generic name for these plants?

In the Anales Sociedad Cientific Argentina (*96*: 69-70), Spegazzini in 1923 erected the genus *Brittonrosea,* in honor of the authors of THE CACTACEAE, to include the species which had been transferred from *Echinocactus* to *Echinofossulocactus.* This journal is not available locally, hence the reason why Spegazzini found it necessary to discard *Echinofossulocactus* cannot immediately be ascertained, but it is presumably because the genus was not properly published by Lawrence. In other words, it may have been merely a name and consequently is invalid. There are many such names in systematic botany, which are no longer used by the best authorities.

In any event, since Spegazzini's conception of the genus is the latest, we will doubtless have to substitute *Brittonrosea* for *Echinofossulocactus* in the future.

By comparing the entries in the Index Kewensis with those in the Gray Herbarium card index, we find that the following species, formerly under *Echinocactus,* have been transferred to *Brittonrosea: albatus* Dietr., *anfractuosus* Mart., *arrigens* Link, *coptogonus* Lem., *crispatus* DC, *dichroacanthus* Mart., *gladiatus* Link & Otto, *grandicornis* Lem., *hastatus* Hopffer, *heteranthus* Mulenp., *lamellosus* Dietr., *lancifer* Dietr., *multicostatus* Hildm., *obvallatus* DC, *pentacanthus* Lem., *phyllacanthus* Mart., *violaciflora* Quehl., *wippermanni* Mulenp., *zacatecasensis* B. & R. Also the following two species, originally described under *Echinofossulocactus: confusus* B. & R., *lloydii* B. & R.

The transfers can readily be made, since they were all made by Spegazzini; for example, *E. albatus* becomes *B. albata* (Dietr.) Speg., *E. arrigens* becomes *B. arrigens* (Link) Speg., *E. lloydii* is *B. lloydii* (B. & R.) Speg.

There may possibly be a few more species, described for the most part in German periodicals, which should be placed in *Brittonrosea.* It is much to be regretted that continental authors follow Schumann's none to accurate classification so blindly.

Etcheveria or Eckeveria

A question of pronunciation

By JAMES WEST

The question may not be enormously important, but on the principle that etymological derivations in botanical names have a certain interest of their own, and so should not be obscured unnecessarily, the writer has always upheld the former pronunciation against what seems a majority.

The genus was named Echeveria in 1828 by A. P. de Candolle in honor of Atanasio Echevarria (also spelled Echeverria), a Mexican botanical draftsman who was one of the illustrators of the Flora Mexicana.

This is a common family name among the Spanish Basques, with its first consonant as "tch", a pronunciation which would also be the most natural one for an English-speaking person. The purely accidental fact that the syllable *ech* also happens to occur in a number of other botanical names, especially of succulent plants, e.g. Echinus, Echinocereus or Echidnopsis, where, however, its derivation is entirely different, e.g. from the Greek *echinos,* hedgehog, sea-urchin, also a spike on a horse's bit, or (as in the last-mentioned word) *echis,* viper, adder. Here the *ch* represents the guttural X, unpronounceable to the average Anglo-Saxon tongue, and therefore usually given the sound of English *K.*

The writer feels that it is, to say the least, unnecessary to drag in this (more or less) Greek pronunciation for a word that has no connection with Greek whatever, and incidentally cause confusion by making it seem to have the same origin as the names derived from *echis* or *echinus.*

Etymologically, it may be of interest to note

that the *Eche* in the Basque language means House or Homestead, and is a prefix not uncommon in family names e.g. Echeguarray; in this it resembles the more familiar prefix *Tre*, of the same meaning, found in so many Cornish names like Trelease, Tremaine or Tregarthen. As to the derivation of the second half of the word Echeveria, the nearest guess we have come to after delving in Basque dictionaries is *berri* —new. There being properly no "v" sound in Basque, and v and b being more or less interchangeable in Spanish phonetics, this seems a likely derivation. If we are right, Echeveria would be equivalent to the English Newhouse.

If these lines should meet the eye of some Basque scholar among our readers, we hope he will set us right if we are mistaken.

If this discursion into etymology, philology and orthoepics may seem a small and unimportant matter, at least it goes to show into what unsuspected byways the pursuit of the succulent may lead you.

By MARY NORWOOD LAWRENCE
Assistant Editor
376 N. Ave. 57, Los Angeles, Calif.

One use for the abandoned miniature golf courses has been found here in Los Angeles as a display yard for cactus and succulents. The dealer has left the fairways intact and filled with plants, and the walks are pathways among the many fine specimens he has for sale.

A slug is no respecter of gardens. So eminent a sempervivumist as Charles W. Armstrong of Vancouver, B. C., is bewailing the loss of several precious specimens from raids of the slimy pests. He sends on a recipe for a solution for the benefit of those who likewise suffer:

> Two pounds of lime slacked in ten gallons of water. Two pounds of alum sulphate dissolved in hot water, decanting the lime water into it. When settled spray the cacti through a fine nozzle and, presto, it does the work.

To quote Mr. Armstrong: "For a month now I have not found a trace of a slug. The above formula does not harm or disfigure the young growth."

Another interesting letter to the Cactus Patch this month comes from Holland. Miss M. C. Karsten, Secretary of "Succulenta" writes of the forthcoming book on "Mesembryanthema" of which she is one of the three authors. The three are: N. E. Brown, A.L.S., of Kew, England; Arthur Fischer, Ph.D., Bruchsal, (Baden), Germany; and Miss M. C. Karsten, Secretary of "Succulenta", Terborg, Holland.

Dr. Brown wrote the preface and descriptions of the 146 species illustrated (mostly the dwarf-like, mimicry forms) and lent some of his famous aquarels to be reproduced in the book. Dr. Fischer has provided chapters on Cultivation, on Diseases, on Pests, and undertaken the German translations. Miss Karsten's share seems the most laborious (the Patcher speaks feelingly, having had experience with indexes), she having compiled an English, German, and Dutch Glossary of the botanical terms used in the book, and provided a Bibliography of the literature on Mesembrianthemums from Linné to 1931. Also a chapter on General Ecology (mimicry and windowed plants) is hers, as well as the translations into Dutch of both Mr. Brown's and Dr. Fischer's work.

As a matter of pride we quote from Miss Karsten's letter: "I am very interested in your American Cactus Journal and joined as a member this year. I think it is most extraordinary how it has grown in its two years of life and so soon become a recognized addition to the literature on the subject of Cacti. It is very well edited and you are fortunate in having a staff of able contributors. May you be proud!"

Dr. Rudolph Marloth will no longer thrill us with the discovery of some new, queer plant from the veldts and kopjes of South Africa, his passing in that far-off land having been recently reported. A quarter-century ago his articles on mesembrianthemums (little known in this country then) intrigued the writer, and his books on the flora of the Cape Provinces have long been standard. Collectors in this country have relied on his treatises on Euphorbia, he having discovered several additions to the genus, and the general reader will miss his gentle stories of his wanderings far afield. May he find in Elysian Fields new byways for his hunter's footsteps.

In struggling through an English translation of a German Cactus magazine we were able to gather that there is a Cactus Society in Switzerland organized a month ago in Zurich, called "The Society of Swiss Cactus and Succulent Friends."

Mr. and Mrs. John Wright of San Francisco visited the southern part of the State on a plant collecting trip to fill the fire escape hot house Mr. Wright has invented. He informs the JOURNAL staff that the fire wardens of San Francisco are casting disapproving glances at his pet idea, and the future of his invention looks black.

For those wishing to carry their hobby beyond the collection of plants, one of the largest department stores of Los Angeles is making a special showing during August of a Cactus Crank's dinner set which it has on sale. The plates, cups, and saucers are beautifully decorated with designs of Cereus and Opuntia, while the same design is mill woven into the table cloth and napkins. The fruit bowl is filled with Nopal pears, and two inch spines of Carnegiea gigantea are furnished as tooth picks.

Ellen Schultz Quillin, co-author of "Texas Cacti" and director of the Witte Memorial Museum of San Antonio, Texas, made a hurried trip to California and visited the Huntington Botanic Gardens. Unfortunately, Mrs. Quillin arrived in Los Angeles when many of the society members were attending the San Francisco show, and most of us missed her interesting personality.

THE CACTUS AND SUCCULENT SOCIETY OF AMERICA
An International Society for all lovers of Xerophytes
Headquarters: Los Angeles, California

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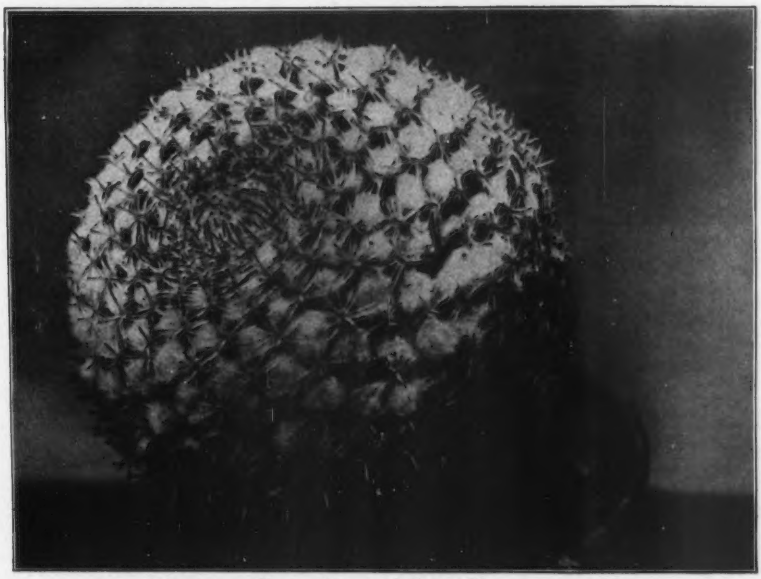

Neomammillaria chinocephala seedling 9 years old.

Neomammillaria chinocephala (J. A. Purpus)

Neomammillaria chinocephala was first described in 1906 by J. A. Purpus in the Monatsschrift fur Kakteenkunde, and it is a surprise that this species remained so long undescribed, for it has been fairly common in collections for many years before this date, and was distributed by Pringle as *Mammillaria acanthophlegma* as early as 1890.

Unlike *Neomammillaria elegans,* the tubercles have a milky juice and bear setae in the axils, otherwise the resemblance of both plants are very much alike in appearance, except *N. elegans* being somewhat smaller.

The globose body of *N. chincophala* is almost entirely hidden by the white spines and white wool which fills the space about the axils of the tubercules, while the low pectinate radial spines are penetrated with hair-like bristles which are also white. The small rose-red flowers are about ¼ inch long, and show up very conspicuously in the white background of the plant. Are found high in the mountains of central Mexico, and are said to occur quite plentifully in the Sierra de Parras, state of Coahuila, Mexico.

IMPORTANT NOTE: Plant names are printed as received from the advertiser. The Journal does not change the spelling in any way.

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ECHEVERIA bifurcata. New, rare and distinct. Offered for the first time in California. Nice plants $1.50 each. Postpaid. E. P. BRADBURY, Fontana, Calif.

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MISCELLANEOUS

INFORMATION WANTED: If you have purchased a Strelitzia parvifolia since May 22nd please communicate with the Knickerbocker Nurseries. $25.00 reward for lost plant. 6143 Market Street Extension, Route 1, San Diego.

RESEARCH SERVICE—General botanical research. DR. DONALD A. JOHANSEN, Box 32, Stanford University, Calif.

CACTUS JOURNAL

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